

CLAIMS

What is claimed and desired to be secured by Letters Patent of the United States is:

5 1. An apparatus for selectively energizing a high-voltage AC electrical load, comprising:

a) a switch housing having an opening located in correspondence with a central opening of standard wall plates; and

10 b) switch means extended through and movable within said opening of said switch housing and coupled to means for selecting a pre-programmed function of said apparatus for selectively energizing said load.

15 2. The apparatus in claim 1, wherein said opening has a height dimension of about 25 mm and a width dimension of about 10 mm, which corresponds with a standard toggle-switch wall plate.

20 3. The apparatus in claim 1, wherein said opening has a height dimension of about 67 mm and a width dimension of about 34 mm, which corresponds with a standard rocker-switch wall plate.

4. The apparatus in claim 1, wherein said switch means is selected from a group of multi-position rotary switches, multi-position slide switches, multi-position push button switches, multi-position toggle switches, multi-position lever switches, and multi-position rocker switches.

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5. The apparatus in claim 1, wherein said pre-programmed function is to selectively energized said AC load ON and OFF at random-time intervals.

6. The apparatus in claim 1, wherein said pre-programmed function is to
10 selectively energize said AC load ON and to a state that is less than full ON at a periodic rate.

7. The apparatus in claim 1 wherein said pre-programmed function is to
selectively energize said AC load ON for predetermined interval time and then
15 OFF thereafter.

8. The apparatus in claim 1, wherein said pre-programmed function is to
selectively energized said AC load ON for predetermined interval time and then
slowly de-energized said AC load over a predetermined of time to an OFF state.
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9. The apparatus in claim 1 wherein said pre-programmed function is to
selectively energize said AC load to a state that is less than full ON for
predetermined interval time and then OFF thereafter.

10. The apparatus in claim 1 wherein said pre-programmed function is to selectively energize said AC load to a state that is less than full ON.

11. An apparatus for selectively energizing a high-voltage AC electrical
5 load, comprising:

- a) a housing having an opening located in correspondence with a central opening of a standard wall plate;
- b) first switch means mounted to said housing in said central opening
10 having an "off" position and an "on" position; and
- c) Second switch means extended through and movable within said central opening and coupled to means for selecting a pre-programmed function of said apparatus for selectively energizing said load.

15 12. The apparatus in claim 11, wherein said opening has a height dimension of about 25 mm and a width dimension of about 10 mm, which corresponds with a standard toggle-switch wall plate.

20 13. The apparatus in claim 11, wherein said opening has a height dimension of about 67 mm and a width dimension of about 34 mm which corresponds with a standard rocker-switch wall plate.

14. The apparatus in claim 11, wherein said second switch means is selected from a group of multi-position rotary switches, multi-position slide switches, multi-position push button switches, multi-position toggle switches, multi-position lever switches, and multi-position rocker switches.

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15. The apparatus in claim 11, wherein said pre-programmed function is to selectively energized said AC load ON and OFF at random-time intervals.

16. The apparatus in claim 11, wherein said pre-programmed function is
10 to selectively energize said AC load ON and to a state that is less than full ON at a periodic rate.

17. The apparatus in claim 11, wherein said pre-programmed function is
to selectively energize said AC load ON for predetermined interval time and then
15 OFF thereafter.

18. The apparatus in claim 11, wherein said pre-programmed function is
to selectively energized said AC load ON for predetermined interval time and
then slowly de-energized said AC load over a predetermined of time to an OFF
20 state.

19. The apparatus in claim 11, wherein said pre-programmed function is
to selectively energize said AC load to a state that is less than full ON for
predetermined interval time and then OFF thereafter.

20. The apparatus in claim 11, wherein said pre-programmed function is to selectively energize said AC load to a state that is less than full ON.

21. An apparatus for selectively energizing a high-voltage AC electrical load, comprising:

- a) a switch housing mountable within the interior of dwelling connected to the AC power supply and said AC electrical load;
- b) first switch means mounted to said housing having an "off" position, and a "on" position;
- c) control means mounted in said switch housing;
- d) second switch means having plurality of positions mounted in the said housing for selecting different pre-programmed functions which are predefined in said control means;
- e) means responsive to each position of said second switch means for completing and interrupting said circuit so as to permit flow of current through a thyristor connected in said leads so that said AC electrical load is energized and de-energized in accordance with said pre-programmed functions and when said first switch is in the "on" position; and
- f) means for deriving a source of constant DC voltage power from a small portion of every half AC cycle or full AC cycle, which appears across said thyristor and for supplying said constant DC voltage power to said control means.

22. The apparatus in claim 21, wherein said control means comprises a programmable microcontroller.

5 23. The apparatus in claim 22, wherein said programmable microcontroller contains non-volatile memory for storing said pre-programmed functions.

24. The apparatus in claim 21, wherein said functions are user
10 programmable.

25. The apparatus in claim 21, wherein said second switch means is selected from a group of multi-position rotary switches, a multi-position slide switches, multi-position push button switches, multi-position toggle switches,
15 multi-position lever switches, and multi-position rocker switches.

26. An apparatus for selectively energizing a high-voltage AC electrical load, comprising:

- a) a switch housing mountable within the interior of dwelling connected to the AC power supply and said AC electrical load;
- 5 b) control means mounted in said switch housing;
- c) switch means mounted to said housing having an "off" position and plurality of positions which selects different pre-programmed functions which are predefined in said control means;
- d) means responsive to each other position of said switch means for
10 completing and interrupting said circuit so as to permit flow of current through a thyristor connected in said leads so that said AC electrical load is energized and de-energized in accordance with said pre-programmed functions; and
- e) means for deriving a source of constant DC voltage power from a small
15 portion of every half AC cycle or full AC cycle, which appears across said thyristor and for supplying said constant DC voltage power to said control means.

27. The apparatus in claim 26, wherein said control means comprises a
20 programmable microcontroller.

28. The apparatus in claim 27, wherein said programmable microcontroller contains non-volatile memory for storing said pre-programmed functions.

5 29. The apparatus in claim 26, wherein said functions are user programmable.

30. The apparatus in claim 36, wherein said switch means is selected from a group of multi-position rotary switches, multi-position slide switches, multi-
10 position push button switches, multi-position toggle switches, multi-position lever switches, and multi-position rocker switches.